

35 U.S.C. § 103(a) as being unpatentable over Saito et al. in view of James et al. (U.S. Patent No. 5,766,789).

Applicants wish to thank the Examiner for granting the personal interview on August 19, 2005. The following remarks are consistent with the topics discussed and the agreements reached during the interview.

SECTION 112, 1ST PARAGRAPH REJECTION

Applicants respectfully traverse the rejection of claims 27-33, 36-41, and 43-52 under 35 U.S.C. § 112, 1st paragraph. As the Examiner has properly recognized, both of the independent claims (claims 27 and 36) in the application currently recite a combination of elements including “an acidic electrolytic solution.” The Examiner has alleged that the specification, “while being enabling [for] the use of an acidic electrolytic solution, such as sulfuric acid, in a lead acid battery, does not reasonably provide enablement for other acidic electrolytes.” The Examiner continued that “[t]he specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to use the invention commensurate in scope with these claims.”

Applicants respectfully submit that the specification, as originally filed, properly and fully enables the “acidic electrolytic solution” claim element. At paragraph [18], for example, the specification explains:

[t]he electrolytic solution composition may be chosen to correspond with a particular battery chemistry. For example, while lead acid batteries may include an electrolytic solution of sulfuric acid and distilled water, nickel-based batteries may include alkaline electrolyte solutions that include a base, such as potassium hydroxide, mixed with water. It should be noted that other acids and other bases may be

used to form the electrolytic solutions of the disclosed batteries.

This paragraph provides a working example of the claimed acidic electrolytic solution (e.g., sulfuric acid and distilled water) and instructs those of ordinary skill in the art that other acids may also be used to form suitable electrolytic solutions for the disclosed batteries. Applicants maintain that no undue experimentation would be necessary for one of ordinary skill in the art to identify other such acids appropriate for making the claimed acidic electrolyte solution. Indeed, many acids and acid combinations suitable for use in an acidic electrolytic solution for a battery would be well known to those of ordinary skill in the battery art.

Applicants maintain that providing an exhaustive list of possible acidic electrolytic solutions in the specification would be impractical. Further, such a list is not required to enable the “acidic electrolytic solution” claim element. Specifically, as the Federal Circuit has held, a patent need not teach, and preferably omits, what is well known in the art. *In re Buchner*, 929 F.2d 660, 661 (Fed. Cir. 1991). Indeed, the Federal Circuit has repeatedly explained that a patent applicant does not need to include in the specification that which is already known and available to one of ordinary skill in the art. *Koito Mfg. Co., Ltd. v. Turn-Key-Tech, LLC*, 381 F.3d 1142, 1156 (Fed. Cir. 2004). In fact, not every last detail is to be described, else patent specifications would turn into production specifications, which they were never intended to be. *Id.* Requiring Applicants to have recited all, or even a significant number, of the known acids and acid combinations suitable for use as an acidic electrolytic solution for a battery is essentially requiring a production specification for acidic electrolytic solutions, a requirement that conflicts with Federal Circuit precedent.

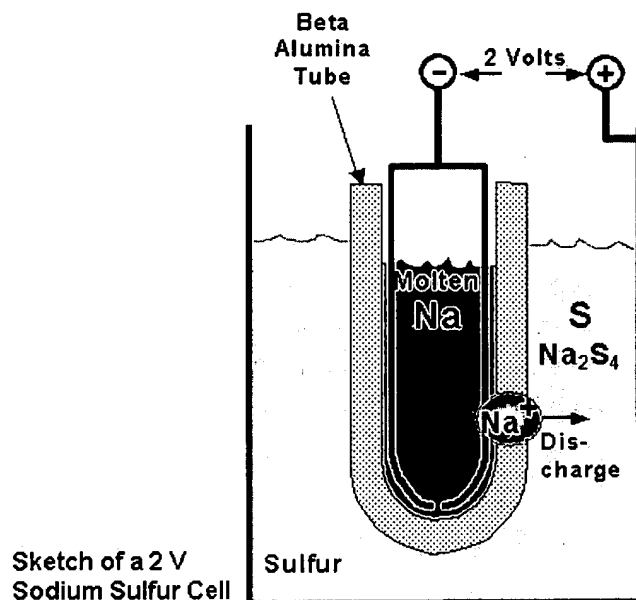
The originally filed specification clearly identifies an acidic electrolytic solution as a component of the claimed battery, provides a working example of the claimed acidic electrolytic solution, and generally explains the suitability of choosing other acids for incorporation into or for making the claimed acidic electrolytic solution. In view of at least these facts, Applicants submit that the “acidic electrolytic solution” claim element is properly enabled by the originally filed specification. Accordingly, the Section 112, 1st paragraph rejection of claims 27-33, 36-41, and 43-52 should be withdrawn.

SECTION 102(B) REJECTION

Applicants respectfully traverse the rejection of claims 27-29, 31, 32, 36, and 38-40 under 35 U.S.C. § 102(b) as being anticipated by Saito et al. because Saito et al. fails to disclose every claim element. For example, independent claims 27 and 36 both recite a combination of elements including, *inter alia*, an acidic electrolytic solution. Because Saito et al. does not disclose at least this claim element of claims 27 and 36, the reference does not support the Section 102(b) rejection of these claims.

In the Office Action, the Examiner contended that Saito et al. teaches the use of sodium chloride and aluminum chloride as the electrolyte in the battery. The Examiner further maintained that the sodium chloride and aluminum chloride materials of Saito et al. constitute Lewis acids and, therefore, meet the “acidic electrolytic solution” claim elements.

Regardless of whether the sodium chloride and aluminum chloride materials of Saito et al. constitute Lewis acids, these materials do not correspond to the claimed acidic electrolytic solution. Particularly, as explained during the interview, these materials do not constitute the electrolyte in the device of Saito et al. Rather, as



explained at col. 4, lines 21-23, Saito et al. uses β'' -alumina (a solid material) as the electrolyte. The sketch above, which the Examiner reviewed during the interview, provides a schematic illustration of a typical molten salt battery, which is the type of battery described in Saito et al. The illustration depicts the commonly used solid beta alumina electrolyte material. As the Examiner agreed during the interview, the alumina (i.e., Al_2O_3) electrolyte included in this type of battery is neither acidic nor a solution, as required by claims 27 and 36.

Because, Saito et al. fails to disclose every element of independent claims 27 and 36, the Section 102(b) rejection with respect to these claims and dependent claims 28, 29, 31, 32, and 38-40, which depend from one of claims 27 and 36, should be withdrawn.

SECTION 103(A) REJECTIONS

Applicants respectfully traverse the rejection of claims 30, 46, 47, and 52 under 35 U.S.C. § 103(a) as being unpatentable over Saito et al. in view of Ludwig. No *prima facie* case of obviousness has been established with respect to claims 30, 46, 47, and 52 for at least the reason that no combination of Saito et al. and Ludwig teaches or suggests every claim element. For example, independent claims 27 and 36, upon one of which claims 30, 46, 47, and 52 depend, both recite a combination of elements including, *inter alia*, an acidic electrolytic solution. Saito et al. fails to teach or suggest the use of an acidic electrolytic solution and, as explained above, discloses the use of a solid alumina electrolytic material. Therefore, Saito et al. does not support the Section 103(a) rejection of claims 30, 46, 47, and 52. Ludwig, which was cited only for its alleged disclosure of a graphite material, fails to remedy the deficiencies of Saito et al. Accordingly, the combination of Ludwig and Saito et al. does not support the Section 103(a) rejection of claims 30, 46, 47, and 52, and, therefore, this rejection should be withdrawn.

Applicants respectfully traverse the rejection of claims 48-51 under 35 U.S.C. § 103(a) as being unpatentable over Saito et al. in view of Nagle et al. No *prima facie* case of obviousness has been established with respect to claims 48-51 for at least the reason that no combination of Saito et al. and Nagle et al. teaches or suggests every claim element. For example, independent claims 27 and 36, upon one of which claims 48-51 depend, both recite a combination of elements including, *inter alia*, an acidic electrolytic solution. Saito et al. fails to teach or suggest the use of an acidic electrolytic solution and, as explained above, discloses the use of a solid alumina electrolytic material. Therefore, Saito et al. does not support the Section 103(a) rejection of claims

48-51. Nagle et al., which was cited only for its alleged disclosure of carbonized wood, fails to remedy the deficiencies of Saito et al. Therefore, the combination of Nagle et al. and Saito et al. does not support the Section 103(a) rejection of claims 48-51, and, therefore, this rejection should be withdrawn.

Applicants respectfully traverse the rejection of claims 33, 37, and 43-45 under 35 U.S.C. § 103(a) as being unpatentable over Saito et al. in view of James et al. No *prima facie* case of obviousness has been established with respect to claims 33, 37, and 43-45 for at least the reason that there is no suggestion or motivation to combine Saito et al. and James et al. in the manner proposed by the Examiner. In the Office Action, the Examiner contended that it would have been obvious to one of ordinary skill in the art to use the carbon current collector material of Saito et al. in the lead acid battery disclosed by James et al. Such a combination, however, is not suggested by either Saito et al. or James et al. Particularly, Saito et al. nowhere mentions a lead acid battery or the possibility of including carbon current collectors in a lead acid battery. Therefore, Saito et al. necessarily fails to suggest incorporating a carbon current collector material into a lead acid battery. Conversely, James et al., while disclosing a lead acid battery, fails to disclose or suggest using a carbon current collector in a lead acid battery. With no suggestion in either Saito et al. or James et al. to use carbon current collectors in a lead acid battery, there can be no suggestion to combine Saito et al. and James et al. in the manner suggested by the Examiner.

Moreover, one of ordinary skill in the art would not have been motivated to combine the carbon current collector of Saito et al. with the lead acid battery of James et al. Specifically, there would have been no expectation of success in incorporating the

carbon current collector of a molten salt battery into a lead acid battery, which includes a completely different chemical environment as compared to the molten salt battery.

Because, there is no suggestion to combine the carbon current collector of Saito et al. with the lead acid battery of James et al. and because one of ordinary skill in the art would not have been motivated to make such a combination, no *prima facie* case of obviousness has been established with respect to claims 33, 37, and 43-45. Accordingly, the combination of Saito et al. and James et al. does not support the Section 103(a) rejection of claims 33, 37, and 43-45, and, therefore, this rejection should be withdrawn.

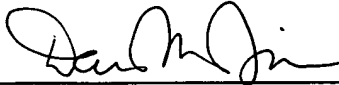
In view of the foregoing remarks, Applicants submit that the claimed invention is neither anticipated nor rendered obvious in view of the prior art references cited against this application. Applicants respectfully request reconsideration and reexamination of the application and timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

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Dated: August 26, 2005

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